Generative AI enhances individual creativity but reduces the collective diversity of novel content

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Abstract

Creativity is core to being human. Generative artificial intelligence (AI)—including powerful large language models (LLMs)—holds promise for humans to be more creative by offering new ideas, or less creative by anchoring on generative AI ideas. We study the causal impact of generative AI ideas on the production of short stories in an online experiment where some writers obtained story ideas from an LLM. We find that access to generative AI ideas causes stories to be evaluated as more creative, better written, and more enjoyable, especially among less creative writers. However, generative AI–enabled stories are more similar to each other than stories by humans alone. These results point to an increase in individual creativity at the risk of losing collective novelty. This dynamic resembles a social dilemma: With generative AI, writers are individually better off, but collectively a narrower scope of novel content is produced. Our results have implications for researchers, policy-makers, and practitioners interested in bolstering creativity.